

**DRAFT  
CHARGE TO REVIEWERS**

**Peer Review Draft of:  
U.S. EPA's HUMAN HEALTH RISK ASSESSMENT PROTOCOL  
FOR HAZARDOUS WASTE COMBUSTION FACILITIES**

The peer review draft U.S. EPA guidance entitled *Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities* (HHRAP) (EPA530-D-98-001A), dated July 1998, is a three volume set of guidance on how to perform risk assessments at hazardous waste combustion facilities. The HHRAP has been developed as national guidance to consolidate information presented in other risk assessment guidance and methodology documents previously prepared by U.S. EPA and state environmental agencies. In addition, the HHRAP also addresses issues that have been identified while conducting risk assessments for existing hazardous waste combustion units. The HHRAP is intended as guidance for conducting risk assessments, and an information resource for permit writers, risk managers, and community relations personnel.

External peer reviewers have been selected representing scientific disciplines generally covered in the HHRAP. These scientific disciplines consist of combustion engineering, air dispersion modeling, fate and transport, exposure assessment, and toxicology. As a reviewer, you should use your best technical knowledge and professional judgment to consider and provide comment on the technical accuracy, completeness and scientific soundness of your charged review. In addition, it is extremely important to not only comment on inadequacies but also to recommend a specific solution or alternative. It is also imperative that the reviewer remember the intended use of the guidance when developing recommendations. Each reviewer is asked to focus on several specific issues in his or her area of expertise with comments on other areas invited but optional. Your comments and recommendations will be considered in finalizing the HHRAP.

All reviewers should be familiar with the Introduction (Chapter 1). In addition, each reviewer should focus on specific chapters and /or volumes that correspond to subject matter specified in their respective charged review. The charge consists of general and specific technical issues provided for consideration

**Charge to External Reviewers**  
**Combustion Engineering**  
**November 15, 1999**

and written comment. In considering limits to schedule and resources, each reviewer should first focus on addressing the charged specific technical issues, with response to general issues being provided as time and resources allows.

**General Issues**

In addition to providing review and comment on assigned specific technical issues, each reviewer should also address the following general issues, as applicable:

1. Comment on the organization of the section reviewed. Is the presentation of information clear and concise considering the technical complexity of the subject and intended audience?
2. Does the purpose of the HHRAP as stated in the Introduction (Chapter 1) accurately reflect the presented methodologies and scope?
3. As with any risk assessment, there are always additional data and method development efforts that could be undertaken to reduce the level of uncertainty. However, are there any major data or methodological gaps within this guidance specific to the sections reviewed that would preclude using for regulatory decision making? If so, how should they be addressed?
4. What long-term research would you recommend that could significantly improve risk assessments of this type in the future?

**Specific Technical Issues**

The reviewer is charged with considering and providing written comment and recommendations on specific technical issues generally defined as being within the scientific discipline of combustion engineering. These specific technical issues were identified through public comment as being significant and requiring additional external review. The reviewer should be familiar with the sections of the HHRAP referenced within the technical issue.

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**Combustion Engineering**  
**November 15, 1999**

1. Comments were received regarding guidance presented for inclusion of the “unknown” or unspiciated total organic emission (TOE) data when estimating stack emission rates (Section 2.2.1.3). Considering the technical complexity of this issue, is guidance on quantifying unspiciated TOE data for use in the risk assessment adequate and presented clearly?
2. Comments were received regarding guidance presented for quantifying non-detect compounds when estimating stack emission rates (Section 2.4). Please review and provide recommendations on the following detection limit related issues: (1) can the instrument detection limit be substituted for the method detection limit in determining the RDL for metals, (2) can sample condensates be combined to lower detection limits without effecting the quality assurance and control of the data generated from analysis, and (3) how should J-flagged or qualified data be used if it is below the calculated RDL, what about if it is also below the assigned MDL?
3. Comments were received regarding guidance presented for considering process upsets in estimating emission rates (Section 2.2.5). Is additional detail and clarification of guidance specific to this issue required?
4. Comments were received regarding guidance on determination of stack-specific particle size distributions recommended for use in air dispersion modeling (Section 3.4). Is inclusion of stack-specific particle size distributions warranted, or could general or default distributions be applied without inducing additional uncertainty in the risk assessment? Considering the possibility of particle agglomeration, would the collection of particle size distribution data, divided into a minimum of three size categories (i.e., <2 microns, 2-10 microns, >10 microns), via SEM utilizing a Colter Counter be technically valid for stacks with a wet scrubber?